

Abstract Submitted  
for the MAR05 Meeting of  
The American Physical Society

**Point-force Response Functions for Model Solid Foams** ERIN MILLER, DAVID WELLS, LUCAS WHARTON, GERALD SEIDLER, University of Washington — It has been suggested that the elastic response to point-perturbations can be used as a fingerprint of the appropriate theory of elasticity for granular and other mesoscale disordered materials. Additionally, this sort of test may be able to provide information as to the appropriate length scale over which a continuum model is valid. Here, we investigate the point-force response function for one example of a mesoscale disordered material – solid foam. We will present results for a variety of model 2-D solid foams, covering the range from very low-density foams, where it has been proposed by Blumenfeld (J. Phys. A, 2003) that foams may exhibit the same type of non-traditional elasticity as has been discussed for granular media, to the high-density limit where traditional theories of elasticity are certainly appropriate on some length scale.

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Date submitted: 30 Nov 2004

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